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| Office Action Summary | Application No. 10/511,648 | Applicant(s) MARKMAN ET AL. |
| | Examiner Dac V. Ha | Art Unit 2611 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 October 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-29 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 18 October 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-166/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1 are objected to because of the following informalities:

Claim 1, line 4, "DFE"; line 6, "dd" should be defined when first mentioned.

Applicant is requested to find and correct similar problem in the other claims 2-29.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn (US 6,671,339).

Re. Claim 12, Ahn discloses claimed subject matter "Apparatus for automatic selection of one of a standard automatic switching mode and an automatic switching mode" "for receiving a data signal, said equalizer including a lock detector for providing a lock signal indicative of equalizer convergence and wherein said selection is based on monitoring of the rate of transitions of said lock signal", in Fig. 4, elements 103, 106; Fig. 7, 8; col. 4, lines 7-22; 47-54; col. 6, lines 1-62; col. 8, line 17 to col. 9, line 42,

where in the determination of how fast the lock signal meets the requirement so the equalizer would switch from one mode to another teaches "rate of transition". Ahn differs from the claimed invention in that Ahn doesn't disclose the equalizer is a "decision feedback equalizer". However, given the adaptation disclosed by Ahn, one skilled in the art would have easily implemented such equalizer with decision feedback equalizer".

Re. Claim 13, Ahn further discloses "wherein said selection is based on whether said rate of transitions is less than or not less than a prescribed rate" in col. 6, lines 26-62; col. 8, lines 60-67.

Re. Claim 14, Ahn further discloses "when said ... mode is selected" in col. 8, line 60 to col. 9, line 42.

Re. Claim 15, Ahn further discloses "wherein said prescribed rate is defined as a threshold count of transitions with a window period" in col. 8, lines 15-19.

Re. Claim 16, Ahn further suggests the teaching of "wherein said window period is defined in terms of symbol counts of said data signal" in col. 7, line 20 to col. 8, line 29.

Re. Claims 17-20, these claimed subject matter would have been easily realized by one skilled in the art as application specific/preference based on the concept disclosed by Ahn.

Re. Claim 1, Ahn discloses:

"an equalizer ... dd mode" (Fig. 4, element 103);

"said equalizer including a lock detector ... convergence" (Fig. 4, element 106)

"a mode selector .. lock signal" (Fig. 4, element 103a). Ahn differs from the claimed invention in that Ahn doesn't disclose the equalizer is a "decision feedback equalizer". However, given the adaptation disclosed by Ahn, one skilled in the art would have easily implemented such equalizer with decision feedback equalizer".

Re. Claim 21, similar to claim 20 above, the claimed subject matter in claim 21 would have been easily realized based on the concept disclosed by Ahn.

Re. Claims 2-11, 22-29, these claimed subject matter are variation in wording of that in claim 21 above, thus would have been easily realized by one skilled in the art based on the concept in Ahn's as well.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Paik et al. (US 5,311,546)

Werner et al. (US 5,809,074)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 4/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dac V. Ha
Primary Examiner
Art Unit 2611